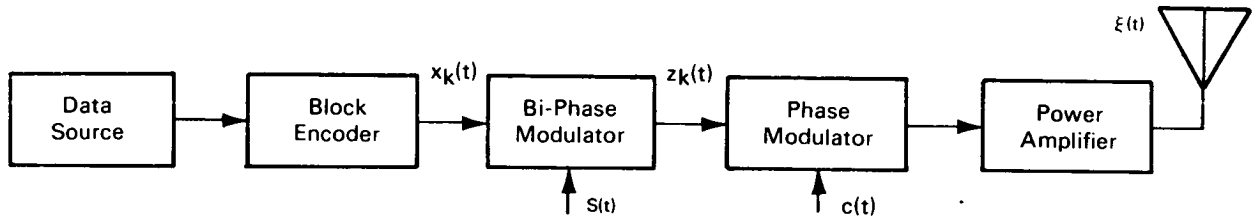
October 1970

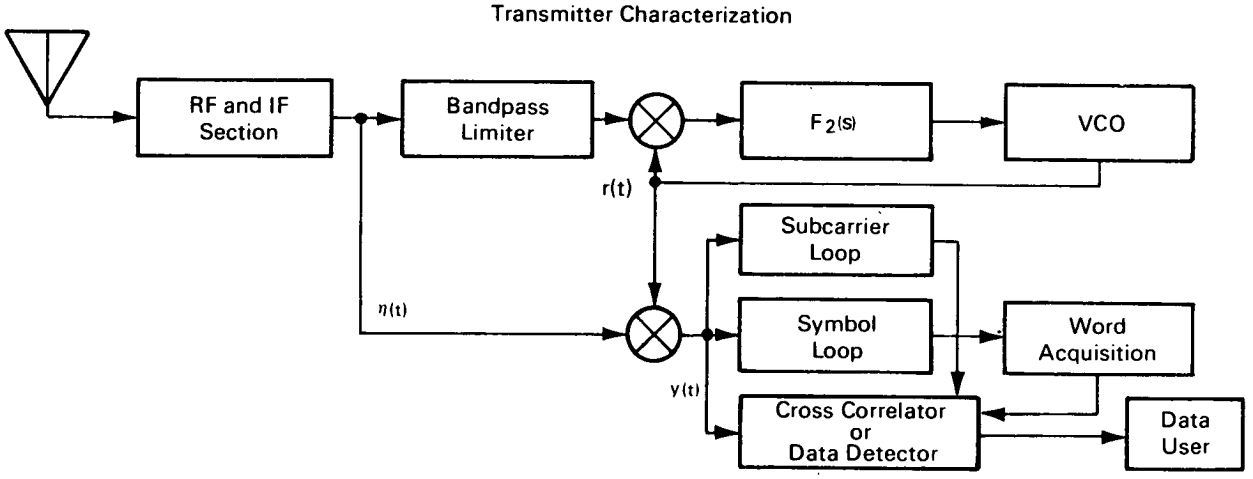
Brief 70-10242

NASA TECH BRIEF

Block-Coded Communications



Transmitter Characterization



Receiver Characterization

Functional Descriptions of the System

A theory for use in design of block-coded telemetry systems has been reported (see Note). The theory is useful in design and in testing the performance of one- and two-way, phase-coherent telemetry systems when a double-conversion, superheterodyne, phase-locked receiver, preceded by a bandpass limiter, is used to track the carrier.

System analysis for either orthogonal or biorthogonal codes is given. Design trends, relating the various system parameters, are presented graphically for practical code sizes. The case of greatest practical interest is emphasized: the design situation in which the data rate is large relative to the design-point bandwidth of the carrier-tracking loop. The figure shows functional descriptions of the system.

Note:

The following documentation may be obtained from:
Clearinghouse for Federal Scientific
and Technical Information
Springfield, Virginia 22151
Single document price $3.00
(or microfiche $0.65)

(continued overleaf)

Reference:
NASA-CR-105796 (N69-36984), Block-Coded Communications

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: W.C. Lindsey of Caltech/JPL under contract to NASA Pasadena Office (NPO-11397)